

ABSTRACT

A laser rangefinder employs time-of-flight measurements for providing high resolution when measuring range and intensity in a system for accurately mapping and classifying agricultural foliage. Profiles and parameters of the foliage and trees are measured and calculated for classifying the tree, controlling mechanical devices for applying only a pre-selected amount of treatment materials to the tree, and estimating production yields. Using a global positioning receiver, a global location for the center of each tree, whether fully grown, juvenile, or dead is identified and used in mapping the measured trees.